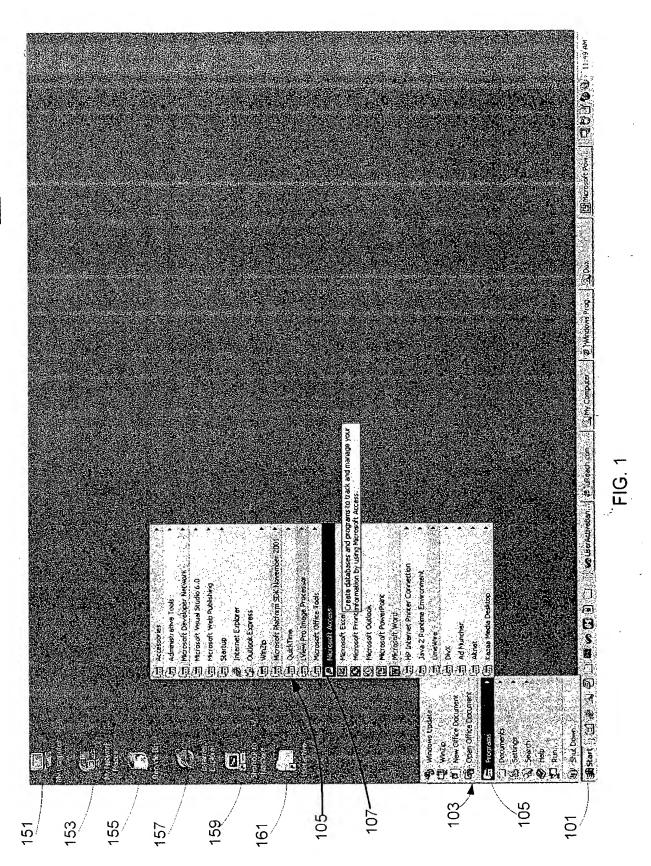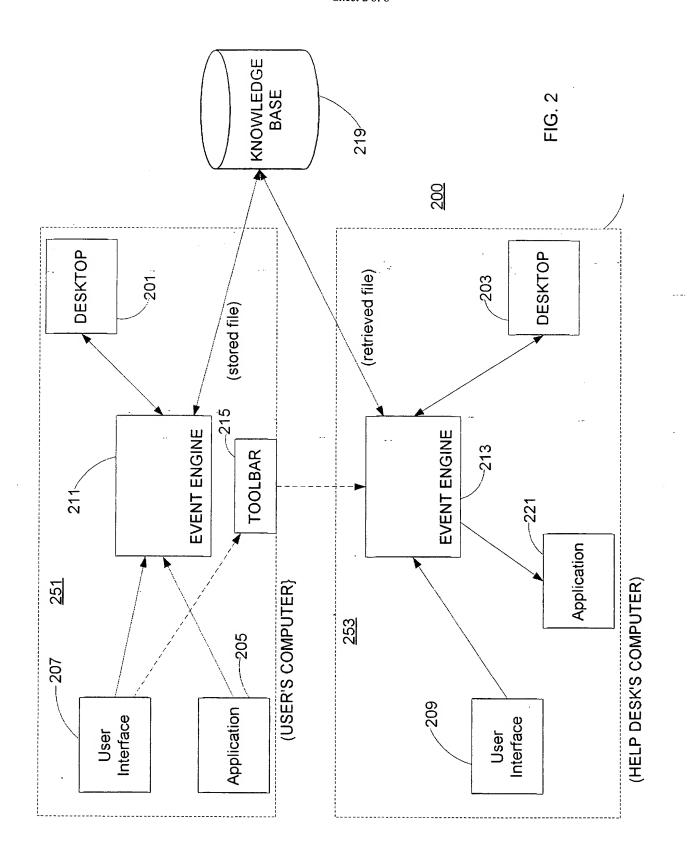Title: Capturing & Processing User Events on
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Inventor: Gray, et al.
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FIG. 1

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FIG. 2

KNOWLEDGE BASE

219

200

251

DESKTOP
201

(stored file)
215

EVENT ENGINE
211

TOOLBAR

User Interface
207

Application
205

(USER'S COMPUTER)

253

(retrieved file)

DESKTOP
203

EVENT ENGINE
213

Application
221
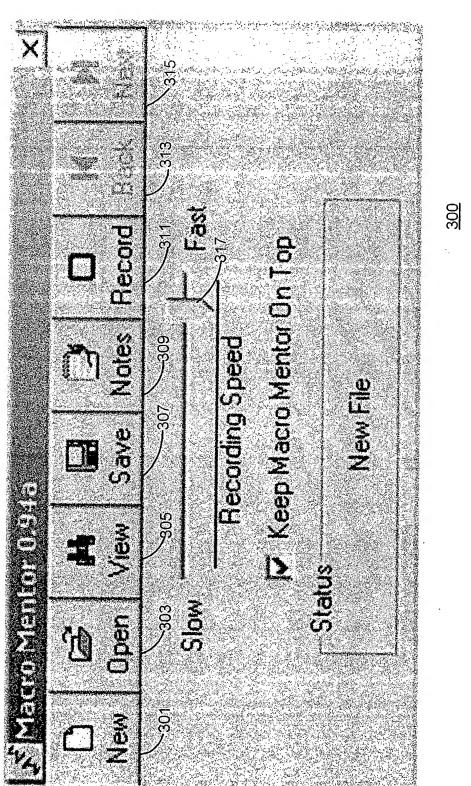
User Interface
209

(HELP DESK'S COMPUTER)

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FIG. 3

300

Macro Mentor 0.34a

New	Open	View	Save	Notes	Record	Back	New

301 303 305 307 309 311 313 315

Slow   Fast

317

Recording Speed

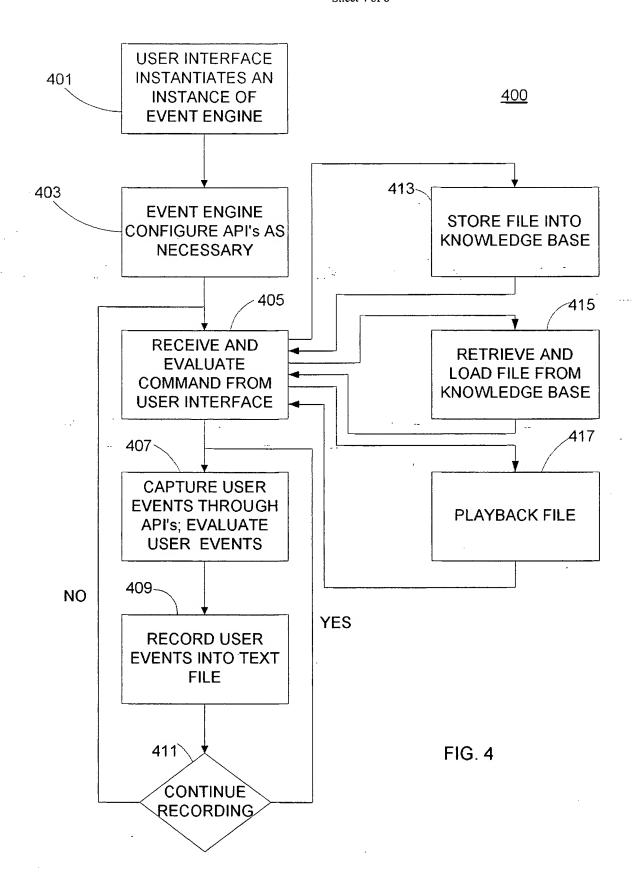☑ Keep Macro Mentor On Top

Status

New File

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401

USER INTERFACE
INSTANTIATES AN
INSTANCE OF
EVENT ENGINE

400

403

EVENT ENGINE
CONFIGURE API's AS
NECESSARY

413

STORE FILE INTO
KNOWLEDGE BASE

405

RECEIVE AND
EVALUATE
COMMAND FROM
USER INTERFACE

415

RETRIEVE AND
LOAD FILE FROM
KNOWLEDGE BASE

407

CAPTURE USER
EVENTS THROUGH
API's; EVALUATE
USER EVENTS

417

PLAYBACK FILE

NO

409

RECORD USER
EVENTS INTO TEXT
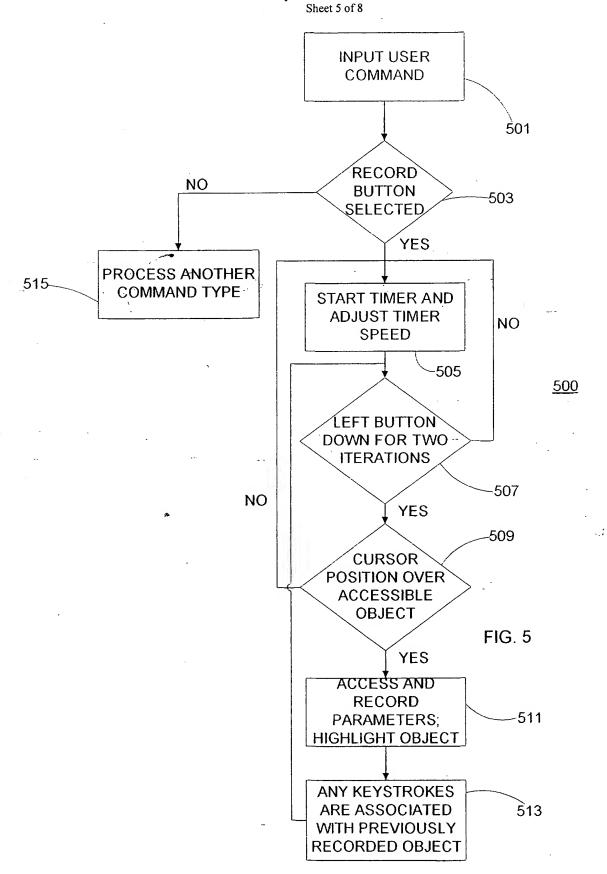FILE

YES

411

CONTINUE
RECORDING

FIG. 4

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INPUT USER
COMMAND

501

RECORD
BUTTON
SELECTED

NO

503

YES

PROCESS ANOTHER
COMMAND TYPE

515

START TIMER AND
ADJUST TIMER
SPEED

NO

505

500

LEFT BUTTON
DOWN FOR TWO
ITERATIONS

507

NO

YES

CURSOR
POSITION OVER
ACCESSIBLE
OBJECT

509

FIG. 5

YES

ACCESS AND
RECORD
PARAMETERS;
HIGHLIGHT OBJECT

511

ANY KEYSTROKES
ARE ASSOCIATED
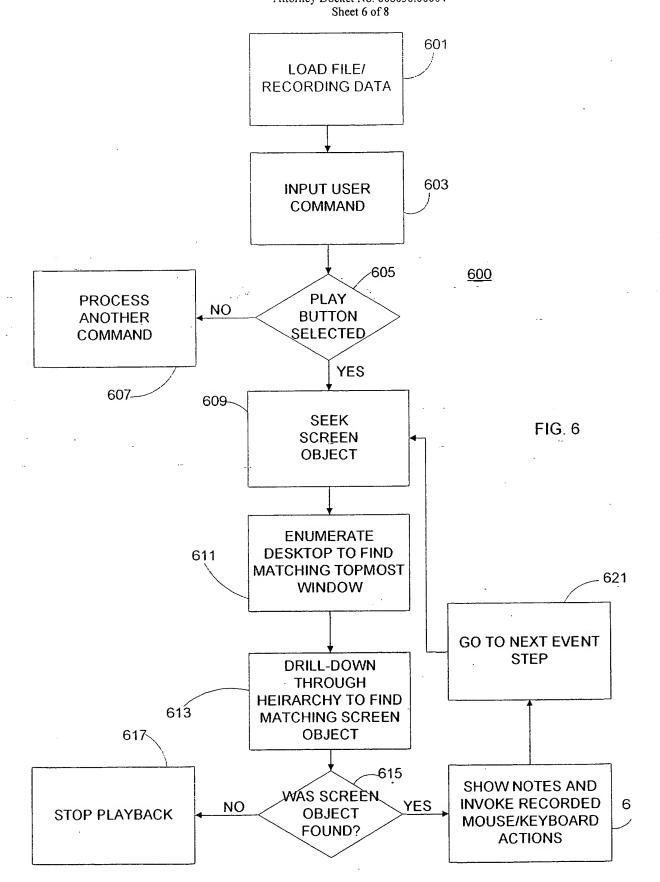WITH PREVIOUSLY
RECORDED OBJECT

513

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LOAD FILE/
RECORDING DATA   601

INPUT USER
COMMAND   603

PLAY
BUTTON   605   600
SELECTED

PROCESS
ANOTHER   NO
COMMAND

607

YES

SEEK
SCREEN   609
OBJECT

FIG. 6

ENUMERATE
DESKTOP TO FIND
MATCHING TOPMOST
WINDOW
611

GO TO NEXT EVENT
STEP   621

DRILL-DOWN
THROUGH
HEIRARCHY TO FIND
MATCHING SCREEN
OBJECT
613

STOP PLAYBACK   NO

617

WAS SCREEN   615
OBJECT
FOUND?

YES

SHOW NOTES AND
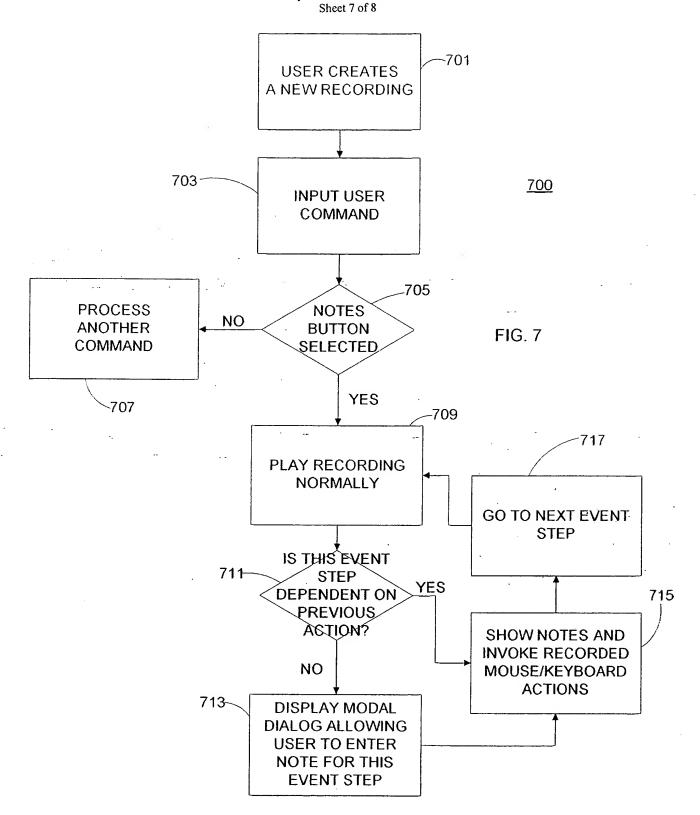INVOKE RECORDED   6
MOUSE/KEYBOARD
ACTIONS

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USER CREATES
A NEW RECORDING — 701

INPUT USER
COMMAND — 703

700

PROCESS
ANOTHER
COMMAND — 707

NO ← NOTES
BUTTON
SELECTED — 705

FIG. 7

YES

PLAY RECORDING
NORMALLY — 709

GO TO NEXT EVENT
STEP — 717

711 — IS THIS EVENT
STEP
DEPENDENT ON
PREVIOUS
ACTION?

YES

NO

SHOW NOTES AND
INVOKE RECORDED
MOUSE/KEYBOARD
ACTIONS — 715

713 — DISPLAY MODAL
DIALOG ALLOWING
USER TO ENTER
NOTE FOR THIS
EVENT STEP

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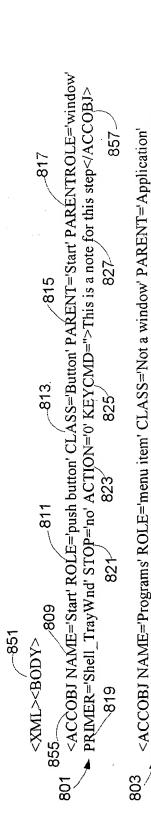Filed: September 12, 2003
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```
851
  <XML><BODY>
855   809                 811                  813                815                    817
801 ➤ <ACCOBJ NAME='Start' ROLE='push button' CLASS='Button' PARENT='Start' PARENTROLE='window'
      PRIMER='Shell_TrayWnd' STOP='no' ACTION='0' KEYCMD=''>This is a note for this step</ACCOBJ>
          819          821        823     825                827                   857

803 ➤ <ACCOBJ NAME='Programs' ROLE='menu item' CLASS='Not a window' PARENT='Application'
      PARENTROLE='popup menu' PRIMER='BaseBar' STOP='no' ACTION='0' KEYCMD=''></ACCOBJ>

805 ➤ <ACCOBJ NAME='Accessories' ROLE='menu item' CLASS='Not a window' PARENT='' PARENTROLE='popup
      menu' PRIMER='BaseBar' STOP='no' ACTION='0' KEYCMD=''></ACCOBJ>

807 ➤ <ACCOBJ NAME='Calculator' ROLE='menu item' CLASS='Not a window' PARENT='' PARENTROLE='popup
      menu' PRIMER='BaseBar' STOP='no' ACTION='0' KEYCMD='_0490000_0500000_0510000_0520000'></ACCOBJ>
                                                               829

853
  </BODY></XML>
```

800

FIG. 8